

New and little known Rhopalocera from the Oriental Region

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THE DESCRIPTIONS and notes which follow are the outcome of a belated tying-up of loose ends in my collection. However, before drawing conclusions from my own very limited material, I examined all the relevant material in the British Museum (Natural History), referred to hereafter as B.M., and also some of the material at Tring. I am much indebted to the Keeper of the Entomological Department for permission to study the national collections and to Mr. Neville Bennett, who kindly dissected a number of B.M. specimens for me.

The types of all new forms described in this paper are in the B.M.

The text figures have been drawn freehand to show the main features only, and all setae, etc. have been removed. The abbreviations Up, Un, F and H have been used in the text for uppersurface, undersurface, forewing and hindwing.

Nymphalidae

1. The *Vindula arsinoë* (Cr.)-*erota* (F.) complex, Fig. 1

Roepke (1938, Proc. R. ent. Soc. Lond. (B) 7; 85-87) first satisfactorily established the separate specific identity of *V. arsinoë* and *V. erota* on the basis of the male genitalia, and showed that the two species occurred together in Malaya, Suntatra, Borneo and Java. He stated that in Celebes he found only *V. arsinoë*.

In fact two *Vindula* species occur together in Celebes and the Sula Islands, and probably also in all the satellite islands off the south coast of Celebes. The Celebes forms of both species have hitherto been known collectively under the name of *celebensis* (Butler, 1874).

As Roepke stated, *celebensis* (type in B.M.) is an *arsinoë* form. It is characterised in both sexes by a relatively long H tail, whilst on UnF a dark and more or less continuous line of discal strigae and three well-defined white apical spots in spaces 6-8, with often a further small spot in space 5. The ♂ genitalia closely resemble those of other *arsinoë* subspecies.

The second species has a relatively short H tail, whilst on UnF the discal strigae are lighter and very disjointed and the apical white spots are absent or vestigial. The ♂ genitalia (see fig. 1) show some similarities to those of *arsinoë*, in particular in possessing a rather stout aedeagus, a long thin pars superior and an elongated penicillium. On the other hand other features, in particular the strongly downcurved pars superior, which at its distal end is not subspathulate as in all true *arsinoë* forms, and the relatively short pars inferior, are characteristic of *erota*.

I have no doubt that this second species must be regarded as the Celebes representative of *erota*, which, through very prolonged geographical isolation, has attained an abnormal degree of subspecific differentiation.

Described *arsinoë* subspecies from the Celebes zoogeographic region are *celebensis*, in which examples from the north and east of the island usually have more contrasted colouring and pronounced black markings than examples from the south; *dioneia* (Frühstorfer, 1912) from the Sula Islands; and *satellitica* (Frühstorfer, 1899) from

Peling Island, which, to judge by specimens in the B.M. from the adjacent island of Banggai which are not separable from well-marked examples of *celebensis*, is a race of doubtful validity.

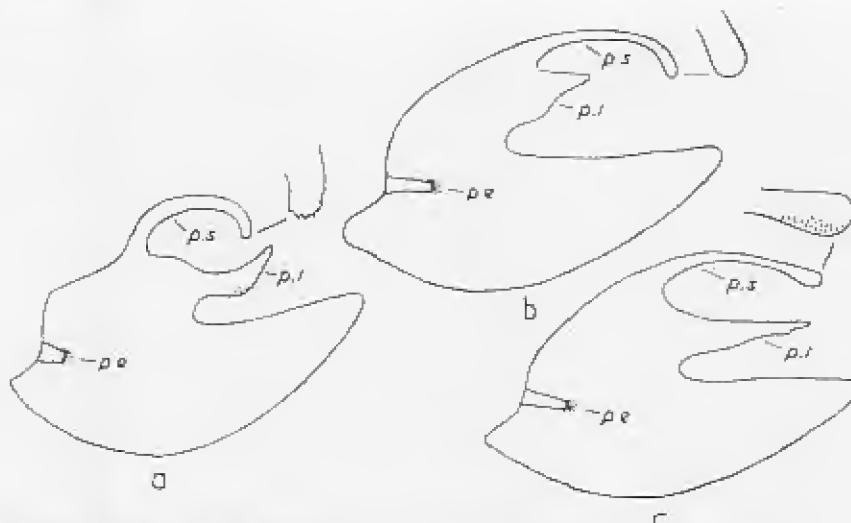


Fig. 1. Outline drawing of clasp of: a. *Vindula erota chersonesia* Pend. (Malaya); b. *V. erota banta* subsp. n. (Celebes); c. *V. arsinoë celebensis* (Butl.) (Celebes). p.s. = pars superior; p.i. = pars inferior; pe = penicillum.

Described *erota* subspecies are *sulaensis* (Joycey and Talbot, 1924) from the Sula Islands, of which only the ♂ appears to be known; and *boetonensis* (Jurriaanse and Lindemann, 1920) from the satellite island of Bonton, a small and poorly marked form with, according to Martin (1920, Tijdschr. Ent. 63; 127-130), a yellow-banded female.

I cannot place *salayara* (Fruhstorfer, 1912) from the satellite island of Sahayer, of which the type should be in the B.M. but is not. In Seitz (1912, Grossschmett. Erde 9; 479) Fruhstorfer compares it to *austrosundana* (Fruhstorfer, 1897) from Lombok, which he states is characterised "by the downward bend of the upper valve protuberance". This suggests an *erota* form. On the other hand the material from Lombok in the B.M., which agrees with the figures of *austrosundana* in Seitz (pl. 108c), proved to be *arsinoë* on dissection. My impression is that only *arsinoë* subspecies, with trimorphic females, fly in the Lesser Sunda Islands, and that *salayara* will also turn out to be an *arsinoë* form.

The *erota* form from Celebes has remained unnamed.

Vindula erota banta subsp. n.

♂. In addition to the differences already pointed out, differs from *V. arsinoë celebensis* (Butler) ♂ as follows. On UpF the ground colour is almost unicolorous, whereas in *celebensis* the basal half is appreciably darkened; on LinH only the region between the inner and outer submarginal strigae is purplish pink, whereas in *celebensis* a purplish pink suffusion extends from the termen up to or beyond a line joining the discal ocelli in spaces 2 and 5. From *V. erota sulaensis* (J. & T.) differs in being larger, more lightly marked on Up, and in being much paler, yellower and more unicolorous on Un. Length of F 46-50 mm.

♀. Apart from the differences already pointed out, is very like *celebensis* ♀, but the Up is slightly paler and more unicolorous, whilst the blackish strigae outwardly bordering the whitish discal band are less pronounced. On UnH the area between the ocelli in spaces 2 and 5 is uniformly of the ground colour whereas in *celebensis* there is a rather linear patch of purplish suffusion. Length of F 53-57 mm.

Holotype, ♂ and allotype ♀. S. CELEBES: Macassar, 1896, (W. Doherty). (B.M. Type Nos. Rh. 15984-5). There are a further 9 ♂ 8 ♀ in B.M. and 5 ♂ in my collection.

Lycaenidae

2. *Allotinus corbetti* sp. n.

This small species belongs to the group which contains *A. horsfieldi* (Moore, 1857) and *A. unicolor* C. & R. Felder, 1865. I sent it before the last war to the late Dr. A. S. Corbet, who figured it (1940, Trans. R. ent. Soc. Lond. 90: pl. 1, figs. 13, 14) as *A. dilutus* Corbet, 1939, an identification which he presumably made solely on account of its small size. Corbet subsequently subordinated *dilutus* as a subspecies of *unicolor*, and I have confirmed from an examination of his types that this was correct. The new species differs markedly from *dilutus*.

Unfortunately the abdomen of the only known ♂ of *corbetti* became detached and lost when Corbet returned the specimen to me through the post without having made a genitalia preparation. Nevertheless the species is so distinct that I have no hesitation in describing it as new, the more so since the ♂ genitalia do not furnish good specific characters in this group.

I have pleasure in naming it after Dr. Corbet in admiration of his researches on Malayan butterflies and in memory of his unsailing kindness and encouragement.

♂. Apex of F rounded, as in ♀ of the group. Up reddish brown, hardly darkening towards the wing apices. On F vein 4 is thickened from its origin for 1/3 of its length, and the usual brand on either side of the thickened portion is lacking. Un the usual markings arranged as in *A. horsfieldi*, but neater and better defined. Length of forewing 10.5 mm.

Holotype. MALAYA: S.E. Johore, Lombong, 3.vii.1938 (J. N. Eliot). (B.M. Type No. Rh. 15973). Unique.

♀. Resembles the ♂, except in lacking the thickening of vein 4 on F and in possessing thicker and longer dentations at the vein endings of H, as usual in ♀ of this genus. Length of F 10.5 mm.

Allotype. MALAYA: S.E. Johore, Lombong, 8.v.1938 (J. N. Eliot). (B.M. Type No. Rh. 15974). 3 ♀ paratypes in my collection.

The main differences between ♂♂ of *A. corbetti* and its nearest allies *A. horsfieldi vadosus* Corbet, 1939 and *A. unicolor dilutus* Corbet, 1939, with which it flies, are indicated in the table. The differences of size and marking apply also to ♀♀.

serial	character	vadosus	dilutus	corbetti
a	Up colour	basally reddish brown, becoming dark brown towards apices and termens	uniform dull brown with out a reddish tinge	almost uniform reddish brown
b	average length of F	19 mm. (see note)	15.5 mm.	10.5 mm.
c	thickening of v. 4, expressed as fraction of its total length	2/3	1/2	1/3
d	brand astride v. 4	prominent, at least 1 mm. wide	prominent, at least 0.75 mm. wide	lacking
e	apex of F	produced (see note)	produced	rounded
f	postdiscal series of spots Unif	spot in space 3 linear, oblique and its upper end far removed from spot in space 4	spot in space 3 thicker and shorter and placed below the spot in space 4	as in vadosus
g	relative position of postdiscal spots in spaces 6 and 7 Unif	adjacent	spot in 7 moved out, so that spot in 6 is about 1/2 way between spot in 7 and spot end cell	adjacent

Note.—Occasionally small ♂♂ of *vadosus* with rather rounded forewings are found (the smallest seen has a F length of 14.0 mm.). Such small ♂♂, and also undersized examples of *dilutus*, can, however, always be identified with certainty by the other characters shown in the table, which do not vary.

3. *Celastrina samanga* (Fruhstorfer, 1909), Fig. 2

The butterfly described by Fruhstorfer (1909, Stettin, ent. Ztg. 71: 287) as *Cyaniris najara* comprises two species. The ♂ (type in B.M.) is a *Celastrina puspa* (Horsfield, 1828) form. The "♀", which is illustrated in Seitz (1922, Grossschmett. Erde 9: pl. 152c, designated ♂ in error) is a ♂ of an unrecognised species.

The unrecognised ♂ must, in my opinion, be linked with the ♀ tentatively placed by Fruhstorfer (op. cit. 286) as the ♀ of *Cyaniris lyce* Grose Smith, 1896, but with the remark that, should it prove not to be this species, it might be called *samanga*. In his subsequent revision of the genus *Lycaenopsis*, to which *Cyaniris* was sunk, (1916, Arch. Naturgesch. 82 (A) (1): 1-42) Fruhstorfer dropped the name of *samanga*, but later, in Seitz, he reintroduced it as a dry season form of *Lycaenopsis puspa kiliini* (Röber, 1886). At the same time he illustrated as the ♀ of *lyce* (pl. 152f, designated *lyseas* in error) a butterfly which is evidently referable to the original description of *samanga*. Despite the confusion due to Fruhstorfer's extremely haphazard use of the name, it appears that the newly recognised species must be known as *samanga*.

Toxopeus (1928, Tijdschr. Ent. 71: 229-233) discussed at length the identity of Fruhstorfer's *samanga* and *najara*. He concluded, on the basis of a specimen in Tring, that *najara* ♀ was in fact the ♀ of *lyce*, which is a subsp. of *Celastrina lavendularis* (Moore, 1877). The Tring specimen, bearing Toxopeus' identification label, has been discovered and proved to be a ♂ *samanga* by dissection. The true ♀ of *lyce* is still unknown.

On facies *C. samanga* is nearest to *C. shelfordi* (de Nicewill, 1902) from Borneo, but the ♂ genitalia (fig. 2) show it to be more nearly related to *C. nedda* (Grose Smith, 1894), having similar pointed processes to the uncus. Its clasp is, however, distinctive.

In both sexes *C. samanga* has the Un markings arranged as in *puspa*, except that the submarginal lunules on UnH are placed a little further from the termen. It can be distinguished from *lavendularis* by possessing a black spot at the extreme base of space 7 on UnH.

C. samanga shows rather marked seasonal variation. The dry season form is larger, and in the ♂ the width of the black F border is 2.0-2.5 mm. whilst the H is entirely blue except for a series of marginal spots and diffuse submarginal lunules. In the wet season form the F border is about 3.5 mm. broad and on the H the blue colour is almost confined to the cell. It seems to be a rather rare species confined to Celebes. In 1937 I caught it on the plains and in the mountains.

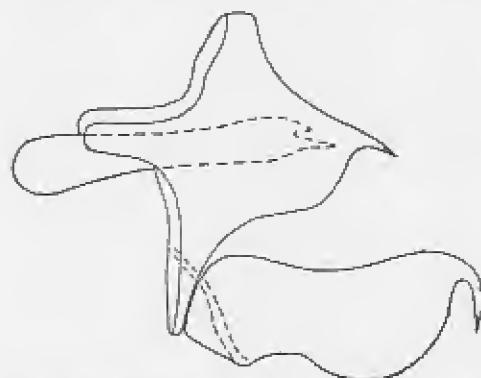


Fig. 2. Male genitalia of *Celastrina samanga* (Fruh.). (left half of uncus and left clasp only shown).

4. *Catopyrops rita* (Grose Smith, 1895), Fig. 3

Originally described as a distinct species, subsequent authors have treated *rita* as a subspecies of *C. ancyra* (C. Felder, 1860). However *rita* is a distinct species, which flies with *ancyra* in the chain of islands from Java to Timor Laut and also in Celebes. Described subspecies are *rita* (type locality Wetter) and *altijarana* Toxopeus, 1930 (described as an *ancyra* form from the mountains of Java).

Superficially the ♂ of *rita* differs from *ancyra* in having a more prominent black border on UpF, whilst on Un it is paler and the markings are narrower and light brownish orange instead of greyish brown. It has a well-defined costal spot in space 12 on UnF, half way between the base and the central cell bar, which is never found in *ancyra*. The ♀ of *rita* is predominantly white, with dark borders and discal spots on UpF.

The ♂ genitalia of the two species each show subspecific differences of detail, but *rita* differs constantly as follows (see fig. 3); the dorsal hooks are longer; the aedeagus is stouter and its distal process is more than half as long again; the clasp is slightly narrower, especially at its base, and the upward and inward curving spinous process at the ventral extremity is inclined slightly proximad and is not toothed, whereas in *ancyra* this process is inclined slightly distad and is prominently toothed for more than half its length.

The subsp. *rita* is figured in Seitz (1922, Gross-schmett. Erde 9: pl. 152i) as *ancyra gaura*, and the subsp. from Celebes is figured by Toxopeus (1930, De Soort als Functie van Plaats en Tijd; pl. IV, figs. 14a, b) as *ancyra subfestivus*. It is quite clear, however, from the good figures accompanying the original descriptions of *gaura* (Doherty, 1891, J. Asiatic. Soc. Beng. 60: 181–182) and *subfestivus* (Röber, 1886, Iris 3: 64) that both are *ancyra* forms, and *duplicata* Toxopeus, 1930 falls as a synonym of the latter.

The *rita* subsp. from Celebes is still unnamed.

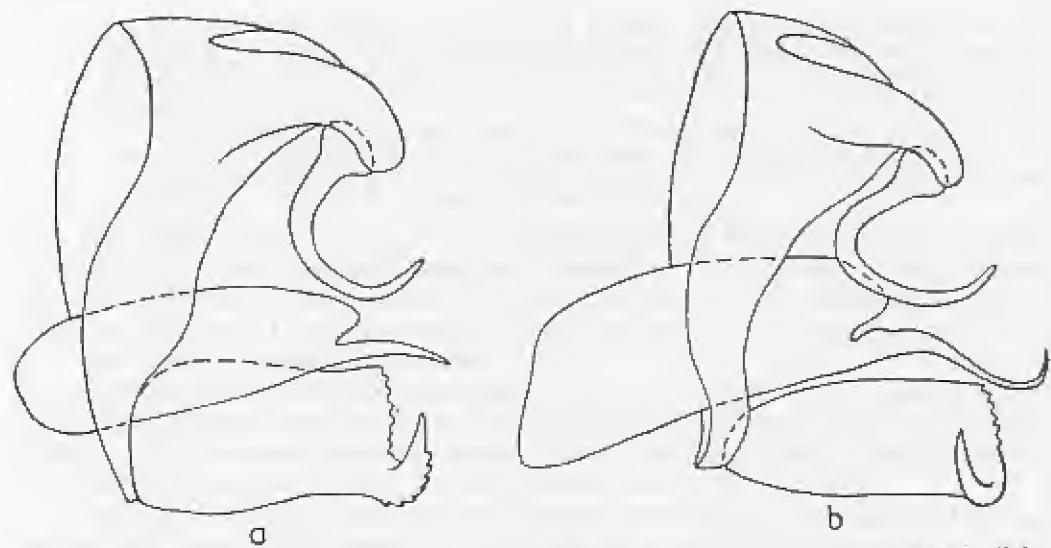


Fig. 3. Male genitalia of: a, *Catopyrops ancyra subfestivus* (Röber); b, *C. rita bora* subsp. n. (left half of uncus and right clasp only shown).

Catopyrops rita bora subsp. n.

♂. Up violet blue, bluer and paler than *rita* and *altijavana*, with the veins lightly dark dusted. The black border, which has a dentate inner edge, is about 1 mm. wide throughout, instead of narrowing towards the tornus as in the other subsp. On Un the markings are more annular and regular. Length of F 15.0 mm.

Holotype, S. CELEBES: Bonthain, 19.IV.1937 (J. N. Eliot). (B.M. Type No. Rh. 15977). 1 ♂ paratype with the same data in my collection.

In examples of *rita* from outside Celebes there is usually an orange crescent above the black tornal spot in space 2 UpH. None of the three examples I have seen from Celebes has such a crescent, which I think may be merely a character of the dry season.

5. Horaga onyx moltrechti Matsumura, 1919 (nec Oberthür).

This Formosan subsp., described by Matsumura (1919, Thous. Ins. Japan Addit. 3: 604), has been overlooked by Seitz and the Zoological Record. It is nearest to typical *onyx* (Moore, 1857), but differs in the reduction of the prominent white area outwardly bordering the orange discal line on UnH to an obscure, narrow, whitish fascia.

Four ♂ & taken by me in Hong Kong in 1953 are referable to *moltrechti*.

6. Artipe eryx alax subsp. n.

♂. Larger than *eryx* (L., 1771), which it resembles on the Up. Un darker emerald green, deepening towards the termens. The usual single or partially double series of discal strigae is replaced on F and H by a complete double series and double cell end bars with the interspaces darkened. Genitalia identical with *eryx*. Length of F 23.5 mm.

Holotype, S. CELEBES: Malino 3500', 12.IV.1937 (J. N. Eliot). (B.M. Type No. Rh. 15970). Unique.

Pieridae

7. Elodina sota sp. n.

Differs in both sexes from other described species in possessing very narrow and elongated wings and in having the F blackish border narrowly white-edged along the termen.

♂. Superficially nearest to *therasia* C. & R. Felder, 1865, but the F black border is paler and greyer, inwardly more regular and narrower, measuring 7 mm. at the costa as against 10 mm.; the dark scaling along the costa is reduced; and the characteristic blackish subapical band on UnF is reduced to a very faint discolouration. The H is unmarked, as in *therasia*. Length of F 27 mm.

♀. Differs from the ♂ only in the broader F border which measures 10 mm. at the costa, and in the slightly more pronounced dark costal dusting. Length of F 27 mm.

Holotype ♂ and allotype ♀, S. CELEBES: Malino 3000', 9.IV.1937 (J. N. Eliot). (B.M. Type Nos. Rh. 15982-3). 1 ♂ paratype in my collection.

The farthest record to the west of the predominantly Papuan genus *Elodina* has hitherto been that of *E. egnatia boisduvali* Fruhstorfer, 1911, described from a single ♂ from Minahassa in N.E. Celebes. There are in addition 3 ♂ *E. therasia* from Minahassa in the B.M. These have slightly narrower wings than typical *therasia* from Halmahera, but otherwise hardly differ.

A rather narrow wing shape also appears to be a feature of *E. dispar* Röber, 1887 from Banggai, which is not represented in the B.M. and is known to me only from the original description and figures. It appears to be a distinct species, characterised by small size and by a dark-dusted ♀ having broad F and H black borders.

It is probable that *sota* will turn out to be only a local form of a described *Elodina* species; but in view of its distinctive appearance it seems best to leave it unattached pending a complete revision of the genus, which is much needed.

8. *Eurema brigitta* ina subsp. n.

♂. On Up the ground colour is nearest to *senia* (C. & R. Felder, 1865) from Malaya, but is paler and more primrose yellow than in that subsp. or *droma* (Horsfield, 1829) from Java. The black borders are the same breadth as those of *droma*, but there is a tendency for the black to run up the veins, especially on the H, and the basal dark dusting is more extensive. Un as *droma*. Length of F 18.0-21.0 mm.

♀. Very similar to *droma* ♀, but more heavily dark-dusted. Length of F 18.0 mm.
Holotype ♂ and allotype ♀. S. CELEBES: Malino 3000'. 8.iv.1937 (J. N. Eliot). (B.M. Type Nos. Rh. 15975-6). 2 ♂ paratypes in my collection.

This small series of *brigitta* is remarkable in that the Fs are narrower and the apices and termens are more rounded than usual. This wing shape, which is only very occasionally found in other subspecies, may prove to be a constant character of *ina*. Martin (1919, Iris 33; 114), who recorded 1 ♂ 1 ♀ of this species from Celebes, said that they differed from Javanese and Sumatran examples by the more arched ("geschwungen") costa of the F. This character is, however, hardly apparent in my examples.